

WHAT IS CLAIMED IS:

1. A method for order entry and processing in the manufacturing of a photomask component, comprising:
  - 5 electronically receiving a product order information file for the photomask component;
  - automatically translating the product order information file into a standard database format;
  - automatically processing the translated product order information file using a rules engine to apply a predefined set of customer requirements to the product order information file such that the product order information file is loaded into an order entry module;
  - 10 and
  - 15 using the order entry module to automatically create for the production of the photomask component according to the product order information file.
2. The method of Claim 1, further comprising automatically selecting a template including customer specifications based on at least one criteria; and
  - 20 validating the product order information file by automatically comparing the product order information file to the template to identify any inconsistencies.
- 25 3. The method of Claim 2, further comprising based on the validation of the product order information file, notifying an operator of identified inconsistency.

4. The method of Claim 3, wherein the notification comprises an email notification.

5. The method of Claim 2, further comprising  
5 following the identification of at least one  
inconsistency, manually selecting a template for a  
product order information file.

10 6. The method of Claim 2, further comprising the  
at least one criteria selected from the group consisting  
of customer, fabrication, product type, template grade  
and template region.

15 7. The method of Claim 1, wherein the product  
order information file is in a semi-file based format.

8. The method of Claim 1, wherein the product  
order information file is in a non-semi-file based  
format.

20 9. The method of Claim 1, wherein the standard  
database format comprises a standard semi database  
format.

25 10. The method of Claim 9, wherein the standard  
database format further comprises a customer  
specification information not included in the semi  
standard format.

11. The method of Claim 1, further comprising translating the product order information into a standard file format.

5 12. The method of Claim 11, further comprising configuring the product order information in extensible markup language (XML) format according to an XML configuration.

10 13. The method of Claim 12, wherein the XML configuration includes specification information.

14. The method of Claim 1, wherein the production data file for the production of a photomask component 15 includes lithography instructions and patterning information.

15. The method of Claim 1, wherein creating the production data file for the production of the photomask component further comprises using the product order information file to select a customer-specified order template for use in preparing the production data file for the production of the photomask component.

25 16. The method of Claim 1, further comprising translating the product order information into a standard database format in less than approximately one minute.

17. The method of Claim 1, further comprising preparing the production data file for production of the photomask component in less than approximately one hour.

5 18. The method of Claim 1, further comprising maintaining the data necessary for production of the photomask component in the standard database format usable by a plurality of manufacturing sites.

10 19. The method of Claim 1, further comprising the method having an order entry process with an error rate of less than 0.5 percent.

20. A system for electronic order entry and automatic processing of a photomask component order comprising:

- a computer-readable medium; and
- 5 executable instructions encoded in the computer-readable medium, the executable instructions, operable to direct a computer to:
  - electronically receive a product order information file;
  - 10 automatically translate the product order information file into a standard database format;
  - automatically process the translated product order information file using a rules engine to apply a predefined set of customer requirements to the product
  - 15 order information file such that the product order information file is loaded into an order entry module; and
  - automatically create a production data file for the production of the photomask component according to the
  - 20 product order information file.

21. The system of Claim 20, the executable instructions further operable to:

- select a template including customer specifications
- 25 based on at least one criteria; and
- validate the product order information file by automatically comparing the product order information file to the template to identify at least one inconsistency.

22. The system of Claim 21, further comprising the executable instructions further operable to, notify an operator whether any inconsistencies were identified during the validation operation.

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23. The system of Claim 21, further comprising the executable instructions further operable to facilitate the manual selection of a template for a product order information file following the identification of at least 10 one inconsistency between the product order information file and the selected template.

24. A method of manufacturing a photomask component, comprising:

electronically receiving a product order information file;

5 automatically translating the product order information file into an XML database format;

automatically processing the XML database format using a rules engine to apply a predefined set of customer requirements to the product order information

10 file such that the product order information file is loaded into an order entry module;

selecting a template including customer specifications based on at least one criteria indicated in the product order information file;

15 validating the product order information by automatically comparing the product order information to the template to identify any inconsistencies; and

using the order entry module to automatically create a production data file for directing the production of a  
20 photomask component according to the product order information.

25. The method of Claim 24, further comprising electronically notifying an operator whether any

inconsistencies were identified during the validation of the product order information file.

26. The method of Claim 25, wherein electronically notifying comprises generating an e-mail notification.

27. The method of Claim 24, further comprising  
manually selecting a template for a product order  
information following the identification of at least one  
inconsistency.

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28. The method of Claim 24, wherein the production  
data file includes lithography instructions and  
patterning information.